Attorney Docket: I-2003.006 US

Preliminary Amendment

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Amendments to the Claims:

- 1. (currently amended) <u>A hybrid Hybrid</u> bacterial toxin subunit comprising an A1-part of Shiga-toxin or Shiga-like toxin fused to an A2-part of Escherichia coli heat-labile enterotoxin.
- 2. (currently amended) The hybrid Hybrid bacterial toxin subunit according to claim 1, characterized in that wherein the A1-part is the [[an]] A1-part of Stx2e.
- 3. (currently amended) A hybrid Hybrid bipartite bacterial toxin comprising five B-subunits of Escherichia coli heat-labile enterotoxin and the hybrid bacterial toxin subunit according to claim 1, [[or 2]] wherein the A1-part is optionally the A1-part of Stx2e.
- 4. (currently amended) <u>A nucleic Nucleic acid molecule comprising a nucleotide sequence encoding [[a]] the hybrid bacterial toxin subunit according to claim 1, [[or 2]] wherein the A1-part is optionally the A1-part of Stx2e.</u>
- 5. (currently amended) <u>A</u> DNA fragment comprising [[a]] <u>the</u> nucleic acid molecule according to claim 4.
- 6. (currently amended) A recombinant Recombinant DNA molecule comprising
- (i) [[a]] the nucleic acid molecule according to claim 4 under the control of a functionally linked promoter, or
- (ii) a DNA fragment comprising the nucleic acid molecule according to claim 4 [[5]], under the control of a functionally linked promoter.
- 7. (currently amended) A live Live recombinant carrier comprising
 - (i) [[a]] the nucleic acid molecule according to claim 4,

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- (ii) a DNA fragment comprising the nucleic acid molecule according to claim 4, [[5]] or
- (iii) a recombinant DNA molecule comprising (i) or (ii) according to claim 6.
- 8. (currently amended) A host Host cell comprising
 - (i) [[a]] the nucleic acid molecule according to claim 4,
 - (ii) a DNA fragment comprising the nucleic acid molecule according to claim 4 [[5]],
 - (iii) a recombinant DNA molecule comprising (i) or (ii) under the control of a functionally linked promoter, according to claim 6 or
 - (iv) a live recombinant carrier comprising (i), (ii) or (iii) according to claim 7.
- 9. (cancelled)
- 10. (currently amended) <u>A vaccine</u> Vaccine Comprising [[a]] the hybrid bacterial toxin subunit according to claim 1 or 2 or a hybrid bipartite bacterial toxin according to claim 3, and a pharmaceutically acceptable carrier, wherein the A1-part is optionally the A1-part of Stx2e.
- 11. (currently amended) <u>A vaccine</u> Vaccine Comprising [[a]] the nucleic acid molecule according to claim 4, a DNA fragment according to claim 5, or a recombinant DNA molecule according to claim 6 and a pharmaceutically acceptable carrier.
- 12. (currently amended) A vaccine Vaccine comprising [[a]] the live recombinant carrier according to claim 7 or a host cell according to claim 8 and a pharmaceutically acceptable carrier.
- 13. (currently amended) A vaccine Vaccine comprising antibodies against [[a]] the hybrid bacterial toxin subunit according to claim 1 or 2 or a hybrid bipartite bacterial toxin according to claim 3, and a pharmaceutically acceptable carrier, wherein the A1-part is optionally the A1-part

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of Stx2e.

14. (currently amended) The vaccine Vaccine according to claim 10 any of claims 10-13, characterized in that wherein said vaccine further comprises an additional antigen derived from a virus or micro-organism pathogenic to humans or animals, an antibody against said antigen or genetic information encoding said antigen.

- 15. (currently amended) The vaccine Vaccine according to claim 14, characterized in that wherein said vaccine comprises a virus or micro-organism [[is]] selected from the group consisting of Pseudorabies virus, Porcine influenza virus, Porcine parvo virus, Transmissible gastro-enteritis virus, Rotavirus, Brachyspira hyodysenteriae, Escherichia coli, Erysipelothrix rhusiopathiae, Bordetella bronchiseptica, Brachyspira hyodysenteriae, Shigella sp., Salmonella choleraesuis, Salmonella typhimurium, Salmonella enteritidis, Haemophilus parasuis, Pasteurella multocida, Streptococcus suis, Mycoplasma hyopneumoniae, Actinobacillus pleuropneumoniae, Staphylococcus hyicus and Clostridium perfringens.
- 16. (currently amended) <u>A method of combatting Shigella or Escherichia coli infection</u> comprising administering an effective amount of Use of
 - (i) [[a]] the hybrid bacterial toxin subunit according to claim 1 [[or 2]], or
- (ii) a hybrid bipartite bacterial toxin comprising five B-subunits of Escherichia coli heat-labile enterotoxin and the hybrid bacterial toxin subunit according to claim 1 according to claim 3,

wherein the A1-part is optionally the A1-part of Stx2e

a nucleic acid molecule according to claim 4,

a DNA fragment according to claim 5,

a recombinant DNA molecule according to claim 6,

a live recombinant carrier according to claim 7, or

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a host cell according to claim 8 for the manufacture of a vaccine for combating Shigella or Escherichia coli infection.

17. (currently amended) <u>A method</u> for the preparation of a vaccine according to claims 10-15, said method comprising the admixing of

the [[a]] hybrid bacterial toxin subunit according to claim 1 or 2, a hybrid bipartite bacterial toxin according to claim 3, a nucleic acid molecule according to claim 4, a DNA fragment according to claim 5, a recombinant DNA molecule according to claim 6, a live recombinant carrier according to claim 7, a host cell according to claim 8, or antibodies against a toxin according to claim 1-3, and

a pharmaceutically acceptable carrier, wherein the A1-part is optionally the A1-part of Stx2e.

- 18. (new) A vaccine comprising the hybrid bipartite bacterial toxin according to claim 3 and a pharmaceutically acceptable carrier, wherein the A1-part is optionally the A1-part of Stx2e.
- 19. (new) A vaccine comprising the DNA fragment according to claim 5 and a pharmaceutically acceptable carrier.
- 20. (new) A vaccine comprising the recombinant DNA molecule according to claim 6 and a pharmaceutically acceptable carrier.
- 21. (new) A vaccine comprising the host cell according to claim 8 and a pharmaceutically acceptable carrier.